

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (CURRENTLY AMENDED) A switching device that selectively switches connections to a selected terminal among a plurality of terminals connected to computers, and can be remote-controlled by remote-access computers over a network, comprising:
a network interface circuit to be connected to the network;
an image processing unit ~~that includes~~ comprising:
switching circuits switching between image signals outputted from the computers responsive to a remote control signal; and
image compression circuits that simultaneously compress the image signals output from the computers via the selected terminals;
~~an image-compression circuit for compressing image signals outputted from the computers;~~
a controller that changes ~~a compression method~~ compression methods or compression ~~rates~~ rates to be respectively used at the image compression ~~circuit~~ circuits, in accordance with a congestion level of the network; and
a circuit ~~that~~ causes keyboard signals and mouse signals supplied via the network to said selected ~~terminal~~ terminals to bypass the image compression ~~circuit~~ circuits, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminal~~ terminals to be sent to the network are simultaneously compressed by corresponding ones of the image compression ~~circuit~~ circuits, compressed image signals being simultaneously sent to the remote-access computers over the network.

2. (ORIGINAL) The switching device as claimed in claim 1, further comprising a packet filtering circuit that adds up a packet data amount received through the network interface circuit.

3. (ORIGINAL) The switching device as claimed in claim 1, comprising a plurality of image processing units and a plurality of remote-control computers that can be connected to the

network, the number of the image processing units being the same as the number of the remote-control computers.

4. (ORIGINAL) The switching device as claimed in claim 1, wherein the controller reports the changed compression method or compression rate to a remote-control computer.

5. (WITHDRAWN) A switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers, and can be remote-controlled over a network, the switching device comprising a controller that makes the computers recognize a mouse, connected to a remote-control computer over the network, as an absolute value device.

6. (WITHDRAWN) The switching device as claimed in claim 5, wherein the controller is a USB controller.

7. (WITHDRAWN) A switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers, and can be remote-controlled over a network,

the switching device comprising:

a function that receives mouse coordinates of a mouse connected to a remote-control computer over the network;

a function that calculates the difference between the received mouse coordinates and previously received mouse coordinates; and

a function that transmits relative value data to a corresponding one of the computers.

8. (CURRENTLY AMENDED) A computer system comprising:

a switching device that selectively switches connections to a selected terminal among a plurality of terminals, and can be remote-controlled by remote-access computers over a network, the switching device including: a network interface circuit to be connected to the network; an image processing unit that includes comprising:

switching circuits switching between image signals outputted from the computers responsive to a remote control signal; and

image compression circuits that simultaneously compress the image signals output from the computers via the selected terminals; an image-compression-circuit-for

~~compressing image signals~~; and

a controller that changes a compression ~~methodsmethod~~ or compression ~~ratesrate~~ to be respectively used at the image compression ~~circuitscircuit~~, in accordance with a congestion level of the network; and

a circuit that causes keyboard signals and mouse signals[,] supplied via the network to said selected ~~terminalsterminal~~ to bypass the image compression ~~circuitscircuit~~, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminalsterminal~~ to be sent to the network are simultaneously compressed by the image compression ~~circuitscircuit~~, compressed image signals being simultaneously sent to the remote-access computers over the network;

a plurality of computers that are connected to the switching device; and

a remote-control computer that is connected to the switching device via the network and supplies the remote control signal.

9. (CURRENTLY AMENDED) A method of updating an image compression method or compression rate to be used in a switching device having image compression circuits and switching circuits that selectively switches connections to a selected terminal among a plurality of terminals connected to computers and can be remote-controlled by remote-access computers over a network, comprising:

switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the selected terminals;

calculating a congestion level of the network; and

changing the image compression ~~methodsmethod~~ or compression ~~ratesrate~~ to be used in the switching device, in accordance with the calculated congestion level of the network, and causing keyboard signals and mouse signals supplied via the network to said selected ~~terminalsterminals~~ to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminalsterminals~~ to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network.

10. (PREVIOUSLY PRESENTED) The method as claimed in claim 9, wherein the

calculating further calculates data flow per unit time from an operation period of a packet filtering function and the amount of data transmitted from a packet filtering circuit.

11. (PREVIOUSLY PRESENTED) The method as claimed in claim 9, further comprising reporting the changed image compression method or compression rate to a remote-control computer.

12. (CURRENTLY AMENDED) A method of updating an image compression method or compression rate to be used in a switching device having image compression circuits and switching circuits that selectively switches connections to a selected terminal among a plurality of terminals connected to computers and can be remote-controlled by remote-access computers over a network, comprising:

switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the selected terminals;

calculating a congestion level of the network, the calculation being performed by a remote-control computer connected to the network and supplying the remote control signal;

determining the image compression ~~methods~~method or compression ~~rates~~rate to be used in the switching device, in accordance with the calculated congestion level of the network, and causing keyboard signals and mouse signals supplied via the network to said selected ~~terminal~~terminals to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminal~~terminals to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network; and

reporting the determined image compression method or compression rate to the switching device.

13. (CURRENTLY AMENDED) A method of updating an image compression method or compression rate to be used in a switching device having image compression circuits and switching circuits that selectively switches connections to a selected terminal among a plurality of terminals connected to computers and can be remote-controlled by remote-access computers over a network, comprising;

switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the selected terminals;

calculating a congestion level of the network, the calculation being performed by a remote and supplying the remote control signal-control computer connected to the switching device via the network, and causing keyboard signals and mouse signals supplied via the network to said selected terminal-terminals to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected terminalterminal to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network; and

reporting the calculated congestion level of the network to the switching device.

14. (PREVIOUSLY PRESENTED) The method as claimed in claim 12, wherein the calculating further calculates data flow per unit time from a measuring period and the amount of packet data received within the measuring period.

15. (CURRENTLY AMENDED) A method of determining an image compression method or compression rate to be used in a switching device having image compression circuits and switching circuits that selectively switches connections to a selected terminal among a plurality of terminals connected to computers and can be remote-controlled by remote-access computers over a network, comprising:

switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the selected terminals;

receiving a congestion level of the network from a remote-control computer connected to the network; and

changing the image compression methodsmethod or compression ratesrate to be used in the switching device, in accordance with the received congestion level of the network, and causing keyboard signals and mouse signals supplied via the network to said selected terminalterminal to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected terminal-terminals to be

sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network.

16. (CURRENTLY AMENDED) A method of updating an image compression method or compression rate to be used in a switching device having compression circuits and switching circuits that selectively switches connections to a selected terminal among a plurality of terminals connected to computers and can be remote-controlled by remote-access computers over a network, comprising:

switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the selected terminals;

calculating a transmission period between the switching device and a remote-control computer that is connected to the switching device via the network; and

changing the image compression ~~methods~~method or compression ~~rates~~rate to be used in the switching device, in accordance with the calculated transmission period, and causing keyboard signals and mouse signals supplied via the network to said selected ~~terminal~~terminal to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminal~~terminals to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network.

17. (CURRENTLY AMENDED) A method of updating an image compression method or compression rate to be used in a switching device having compression circuits and switching circuits that selectively switches connections to a selected terminal among a plurality of terminals connected to computers and can be remote-controlled by remote-access computers over a network, comprising:

switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the selected terminals;

calculating a congestion level of the network, the calculation being performed by the

switching device;

calculating a congestion level of the network, the calculation being performed by a remote-control computer connected to the switching device via the network and supplying the remote control signal; and

changing the image compression ~~methods~~method or compression ~~rates~~rate to be used in the switching device, in accordance with the congestion levels of the network calculated in the foregoing steps, and causing keyboard signals and mouse signals supplied via the network to said selected ~~terminal~~terminal to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected terminal ~~terminals~~to be sent to the network are simultaneously compressed by corresponding ones of thethe image compression circuits, compressed image signals being simultaneously sent to the computers over the network.

18. (WITHDRAWN) A method of converting mouse coordinates that are to be used in a remote-control computer connected to a switching device via a network, the switching device selectively switching connections to a predetermined terminal among a plurality of terminals connected to computers,

the method comprising the steps of:

acquiring an operation screen size displayed on the remote-control computer;

inquiring of the switching device the screen size of one of the computers, and receiving the screen size of the computer from the switching device;

calculating coordinate scales from the operation screen size and a computer screen resolution calculated from the screen size of the computer; and

converting the mouse coordinates into computer absolute coordinates, based on the calculated coordinate scales.

19. (CURRENTLY AMENDED) A computer readable storage medium program product for controlling a computer and encoded with a computer program for causing a computer to update an image compression method or compression rate to be used in a switching device having compression circuits and switching circuits, comprising:

instructions for remote controlling the switching device by remote-access computers over a network;

instructions for switching between image signals outputted from the computers responsive to a remote control signal;

instructions for simultaneously compressing the image signals output from the computers via the selected terminals;

instructions for calculating a congestion level of a network between the switching device and a remote-control computer supplying the remote control signal; and

instructions for changing the image compression ~~methodsmethod~~ or compression ~~ratesrate~~ to be used in the switching device, in accordance with the calculated congestion level of the network, and for causing keyboard signals and mouse signals supplied via the network to said selected ~~terminalsterminal~~ to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminal terminals~~ to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network.

20. (CURRENTLY AMENDED) A computer readable storage medium program product for controlling a computer and encoded with a computer program for causing a computer to update an image compression method or compression rate to be used in a switching device having compression circuits and switching circuits, comprising:

instructions for remote controlling the switching device by remote-access computers over a network;

instructions for switching between image signals outputted from the computers responsive to a remote control signal;

instructions for simultaneously compressing the image signals output from the computers via the selected terminals;

instructions for calculating a congestion level of a network between the switching device and a remote-control computer that is connected to the switching device via the network and supplying the remote control signal;

instructions for determining the image compression methodsmethod or compression ratesrate to be used in the switching device, in accordance with the calculated congestion level of the network, and for causing keyboard signals and mouse signals supplied via the network to said selected terminalsterminal to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected terminal terminals to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network; and

instructions for reporting the determined image compression method or compression rate to the switching device.

21. (WITHDRAWN) A program product for causing a computer to convert mouse coordinates, comprising:

instructions for acquiring an operation screen size displayed on a remote-control computer;

instructions for inquiring of a switching device the screen size of a computer, and receiving the screen size of the computer from the switching device;

instructions for calculating coordinate scales from the operation screen size and a computer screen resolution calculated from the screen size of the computer;

instructions for converting the mouse coordinates into computer absolute coordinates, based on the calculated coordinate scales; and

instructions for transmitting the computer absolute coordinates to the switching device.

22. (CURRENTLY AMENDED) A computer-readable medium encoded with a program for causing a computer to update an image compression method or compression rate to be used in a switching device having compression circuits and switching circuits, the program when executed by a computer causes the computer to perform the method, comprising:

controlling the switching device by remote-access computers over a network;
switching between image signals outputted from the computers responsive to a remote control signal;

simultaneously compressing the image signals output from the computers via the

selected terminals;

calculating a congestion level of a network between the switching device and athe remote-control computer supplying the remote control signal; and

changing the image compression methods~~method~~ or compression rates~~rate~~ to be used in the switching device, in accordance with the calculated congestion level of the network, and causing keyboard signals and mouse signals[,] supplied via the network to said selected ~~terminal~~ terminals to bypass the image compression, such that the keyboard and mouse signals are not compressed, while the image signals supplied from the selected ~~terminal~~ terminal to be sent to the network are simultaneously compressed by corresponding ones of the image compression circuits, compressed image signals being simultaneously sent to the computers over the network.